

Appl. No. 10/821,357

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Amendments to the Claims:

17. (Currently amended) A surface acoustic wave (SAW) device sealed at the wafer level, the device comprising:

an active area to be protected;

electrical contact areas of transducer structures; and

a lithographically-formed structure hermetically sealing at least the active area, and leaving at least a portion of the electrical contact areas exposed, and forming a sealed pocket above the active area filled with a target gas,

wherein the lithographically-formed structure comprises a seal coating which comprises a self-supporting structure adjoining the electrical contact areas of the transducer structures.

18. (original) The device of claim 17, wherein the lithographically-formed structure comprises a glassy material.

19. (original) The device of claim 17, wherein the SAW device is fabricated on a substrate from a group of substrates consisting of lithium tantalate, lithium niobate, and quartz.

20. (Currently amended) A lithographically-fabricated surface acoustic wave (SAW) device, the SAW device comprising:

means for carrying a surface acoustic wave;

transducer structures coupled to the means for carrying; and

a wafer-level means for hermetically sealing the means for carrying the surface acoustic wave,

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wherein said wafer-level means for hermetically sealing comprises a seal coating which comprises a self-supporting structure abutting electrical contact areas of the transducer structures, and wherein the seal coating induces a strain in a substrate on which the SAW device is fabricated.

21. (previously presented) The SAW device of claim 20, wherein the means for carrying the surface acoustic wave comprises a transducer structure.

22. (previously presented) The SAW device of claim 21, wherein the transducer structure comprises aluminum patterned into interdigitated electrode fingers.

23. (previously presented) The SAW device of claim 20, wherein the wafer-level means for sealing comprises a lithographically-formed structure sealing at least the means for carrying.

24. (previously amended) The SAW device of claim 23, wherein the wafer-level means for sealing leaves exposed at least a portion of the electrical contact areas.

25. (previously presented) The device of claim 17, wherein the lithographically-formed structure comprises a material of a thickness so as to be impermeable to undesired contaminants.

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26. (previously presented)The device of claim 17, wherein the lithographically-formed structure comprises silicon dioxide.

27. (previously presented)The device of claim 17, wherein the lithographically-formed structure comprises silicon nitride.

28. (previously presented)The device of claim 17, wherein the lithographically-formed structure comprises a metal.

29. (previously presented)The device of claim 18, wherein the glassy material comprises a spin-on-glass.

30. (previously presented)The device of claim 18, wherein the glassy material comprises a sputtered glass.

31. (previously presented)The device of claim 17, wherein the SAW device is fabricated on a lithium tantalate substrate.

32. (previously presented)The device of claim 17, wherein the SAW device is fabricated on a lithium niobate substrate.

33. (previously presented)The device of claim 17, wherein the SAW device is fabricated on a quartz substrate.

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34. (New) The device of claim 17, wherein the seal coating induces a strain in a substrate on which the SAW device is fabricated to compensate for thermal expansion of the substrate.

35. (New) The device of claim 20, wherein the wafer-level means for hermetically sealing forms a sealed pocket above the means for carrying the surface acoustic wave, which is filled with a target gas.

36. (New) A surface acoustic wave (SAW) device sealed at the wafer level, the device comprising:

an active area to be protected;

electrical contact areas of transducer structures; and

a lithographically-formed structure hermetically sealing at least the active area and leaving at least a portion of the electrical contact areas exposed,

wherein the lithographically-formed structure comprises a seal coating which induces a strain in a substrate on which the SAW device is fabricated to compensate for thermal expansion of the substrate.